CLAIMS AMENDMENT

1-14. (canceled).

15. (new): A method to identify a soluble domain that is a portion of a starting protein which method comprises:

preparing a multiplicity of fusion proteins, each said fusion protein comprising a functional portion and a fragment of said starting protein,

assessing each fusion protein for the function of the functional portion; and

identifying, as a soluble domain, fragments of said protein which are contained in fusion proteins that exhibit the function of the functional portion.

16. (new): The method of claim 15, wherein said preparing is performed in a cell-free system.

17. (new): The method of claim 15, wherein said preparing is performed intracellularly.

18. (new): The method of claim 17, wherein said preparing is performed *in vivo* in *E. coli*.

19. (new): The method of claim 15, wherein the functional portion comprises an enzyme, a binding protein, a luminescent protein or a fluorescent protein or functional portions thereof.

20. (new): The method of claim 19, wherein the fluorescent protein is green fluorescent protein or a variant thereof.

21. (new): A method to produce a soluble domain that is a portion of a starting protein which method comprises

expressing, in each of at least two *E. coli* colonies, a fusion protein comprising green fluorescent protein (GFP) or a variant thereof fused to a fragment of said starting protein and

identifying a transformed *E. coli* colony that emits fluorescence, whereby a colony comprising a fusion protein containing a fragment that is a soluble domain is identified, and said soluble protein domain is produced.

22. (new): The method of claim 21, wherein each said fragment is obtained by a process comprising digesting nucleic acid encoding a fusion protein comprising said GFP or variant and said starting protein with a DNA digesting enzyme.

23. (new): The method of claim 22, wherein said digesting is in only either from the 3′ or 5′ end of the nucleic acid.